

At the World's Fair in Chicago, in 1893, the crowning exhibit in the transportation line was Engine 999, of the New York Central, which hauled the Empire State Express at sixty miles per hour. As illustrating the progress of one hundred years this line may be taken as typical. The line from Albany to Schenectady was opened in 1831, with a train of converted stage coaches hauled by the DeWitt Clinton, an engine weighing six tons, and making a speed of fifteen miles per hour. In 1893 Engine 999, weighing one hundred and two tons, making sixty miles per hour, and today engines weighing three hundred and twenty-nine tons, pulling trains of double the weight of those in 1893, and capable of making eighty miles an hour. The DeWitt Clinton and Engine 999 are exhibits at the Century of Progress Fair.

The "Royal Scot," a famous British train, is on exhibition here also. This train has the fastest schedule of any steam train in the world—88 miles an hour.

The Germans have broken the record for speed on rails—143 miles per hour. This was with the propeller Rail Zeppelin in 1931, between Berlin and Hamburg, on a long stretch of tangent track, but this speed was too fast for track with curves, and now they have a stream lined train, electrically driven, Diesel motored, that makes a maximum speed of 100 miles per hour, a somewhat similar train will soon be on the Union Pacific.

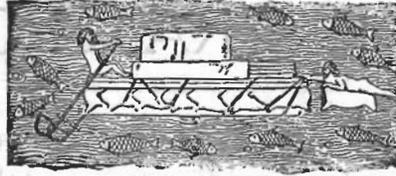
Other speed records are:

An Italian Airplane, 426 miles per hour.

Sir Malcolm Campbell, 272 miles per hour, in a racing car on a Florida beach.

Gar Wood, 124.91 miles per hour, in a speed boat on the Detroit river.

About forty years ago the electric railway was developed, electric traction became universally popular for urban, interurban and suburban lines—advantages were being clean and noiseless, and ability to traverse city streets, places where steam railroads would not be tolerated, but the electric line is passing before the bus and automobile on the parallel concrete



Skin Rafts for Transporting Stone on the Tigris River, About 1,000 B. C.

highway, and the future of electricity in the transportation field will be in the conversion of certain sections of steam railways to electric traction.

At the World's Fair in Chicago in 1893 there was no hint of the automobile, and at the World's Fair in St. Louis in 1904 it appeared as the "Horseless Carriage," but the perfection of the internal combustion engine has led to the manufacture of automobiles, busses and trucks by the million, and has practically revolutionized our transportation on land.

Water Transportation:

It is not known when man first used the waterways, but it was doubtless at a very early age in his history, for the ancient civilization was developed along rivers, and maritime countries.

It is thought that a floating tree or clump of driftwood first suggested to savage man that he too might be borne along by the current of rivers, and possibly a raft was the first form of waterborne craft. Then, perhaps, a log hollowed out with fire or stone axes. Another ancient form was the raft bouyed up by inflated skins, which is still in use on the Tigris and Euphrates. Another form is the wicket basket covered with pitch, the kind of vessel in which Moses was exposed upon the Nile—still in use in Mesopotamia. Man first poled his craft along, or paddled with branches, so the first voyages were doubtless made on rivers and lakes. It is claimed the first sea voyage of which there is any authentic knowledge was made by the Egyptians to the coast of Greece.

The first boats were moved by oars—man power—then the sail, and with the use of a keel and rudder man was enabled to navigate against head winds and current. The sail was possibly suggested by the force of winds against the body or its action in bending trees.

We have known that boats were developed for extensive use at a very early date, for Egyptian inscriptions refer to them 3000 years B. C.

For centuries water transportation was far in advance of transportation on land. We find the Phoenicians, later the Vikings, making long and

regular voyages in small vessels. The world was circumnavigated in small wooden sailing ships. Columbus reached America in a small frail craft, and the Norsemen, centuries before him, in small carriers. World trade was established, and some of the greatest of naval battles were fought in wooden sailing vessels.

There were no speedy voyages, as we understand it now, until the steamship was developed and mechanical propulsion used. Here, too, the development has been almost entirely within the last one hundred years.

The first steamship to cross the Atlantic was the Savannah, in 1819, a steamer with side paddle wheels, but with a full complement of sails. The navigators of that day were not willing to trust entirely to machinery.

Now we have great ocean liners, veritable floating palaces, and furnishing the most luxurious form of all transportation, making speed of thirty miles an hour. Fast steamship travel has meant much to the progress of civilization, as it enables the products of different countries to be quickly interchanged, and contact of travelers with the people of different lands has done much for the international friendships which we so highly prize, and upon which the peace of the world so largely depends.

For a time prior to the development of the railway, considerable transportation in this country, and a great deal in other countries, was done on canals, and canals are still in use in many countries for the movement of heavy freights—still in use in this country, but their traffic has been largely diverted to the more rapid movement by rail.

Interoceanic canals have been built to shorten the passage of ships at sea, as the Suez and the Panama canals.

Aerial Transportation:

Man has longed to fly ever since he first beheld the birds wheeling in flight, and in early mythology and legends we have accounts of his having done so. We have the tale of

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An Indian Drag as Used in North America



Early Wheeled Assyrian Chariot

ADVANTAGES OF R. R. EMPLOYEES' CLUBS

SOME few years ago the Frisco employes of Afton, seeing the business of the town being diverted to other channels; realizing that the "Good Road" movement was becoming a momentous question in the transportation of merchandise into the town; realizing that unless some expedient action was taken on the part of someone, our railroad would lose the business which it was rightfully entitled to, and the forces taking care of that business would, of a necessity, be curtailed—a meeting was called and the employes of this station were organized to do their part in recovering the business lost and to work and strive for more business.

A meeting was arranged with the merchants of the town. They were taught, if you please, exactly what OUR railroad meant to them and they were instilled—as we progressed with the meeting—with the idea and were finally sold on the proposition that OUR railroad was also THEIR railroad. They were shown that without the taxes paid by the FRISCO Railroad—our schools could not be operated over six months in the year; that the county and city governments would suffer; that without these taxes, their revenue would be reduced by reason of the shorter school term and the curtailment that would be necessary in the town government; that with a short school term they would lose some of their citizens who would move where better school advantages were available; that this would reduce their business; that unless they supported the railroad that the forces would be reduced, which would mean a still further cut in their revenue. They were shown that the railroad employe was a high type citizen—that he took pride in his town, supported with civic pride all matters pertaining to the advancement of the town and that about 80% of the employes owned their own homes and paid taxes; that 85% of the employes were church members and supported the various churches; that about 85% of the employes had children and demanded for those children the better things in life, which meant a higher class of business for them. They were then given a picture of the advantages of transportation by rail as compared with truck as to the quicker movement, the safe arrival and the protection

A Contribution Entered in the Olson Rug Contest

By H. L. FREEMAN

that was afforded their loved ones when traveling by rail over that of bus. Without exception, at the close of that meeting, they pledged themselves to rail movement. This has been lived up to by them and as examples of just what our organization has done, I wish to cite two examples:

The owner of one of our drug firms was in that meeting. He stated:

The Olson Rug Company contest, announced in the August issue of the Frisco Magazine, has attracted a great deal of attention and many contributions have reached the editor. It has been decided to extend the closing date of the contest until September 30th.

The best paper submitted on the value and promotion of the ship-by-rail movement on the Frisco, will win the 9 x 12 Olson rug offered free by the Olson Rug Company.

A splendid paper has just reached the desk of the editor and will be entered in the competition. It was written by Harry L. Freeman, Chief Yard Clerk of Afton, Okla., and the paper in its entirety is printed on this page, and additional contributions from Frisco employes will be received up until the night of September 30.

All manuscripts should be sent to Editor, Frisco Magazine, 835 Frisco Bldg., St. Louis, Mo.

"Boys, I am with you, I ship by rail from here on out". A few days later he ordered 100 pounds of floor sweep from a Joplin firm and specified FRISCO. Prior to this time, part of his Joplin stuff had been received by truck. The rates were just about the same. A few days later he saw a large truck stop in front of his store and off rolled his 100 pounds of floor sweep. Did he accept it? He did not. He told the driver to put it back on his truck, take it to the FRISCO freight depot at Joplin and send it by rail or he would order it from some other firm. It was returned to Joplin and came to him the following day by rail. He paid to

have it hauled from the depot to his store, as that was before the free door delivery.

One of our merchants had been buying his groceries from several houses. Part of these made delivery by their own trucks and others supported the trucking firms. After our meeting, salesmen calling on him were told that unless they could ship by rail he was not able to give them an order. He was not able to find any who were willing to assume this expense and he changed his entire line of groceries and lined up with a firm which would make RAIL delivery. Since that time we have enjoyed all of this business. He in turn, not only increased his railroad trade by 100%, but the advertising that he received increased his other trade by at least 100%. We believe in feeding the hand that feeds us.

Without our organization and with the traffic offices located 75 miles away—we firmly believe that we would have lost practically all our LCL business and most of the carload business. From actual experience we have found that an organization, its purposes properly administered, will leave the cream on the milk and the bacon on the rind, and we believe that it can be carried out regardless of how small the station might be if they but organize and put their front foot forward and their shoulder to the wheel.

MISS RESNICK PROMOTED

Rose Resnick, secretary to J. R. Koontz, chief traffic officer at St. Louis, Mo., left St. Louis on August 18 to accept the position of assistant general eastern agent at the Frisco's New York City office.

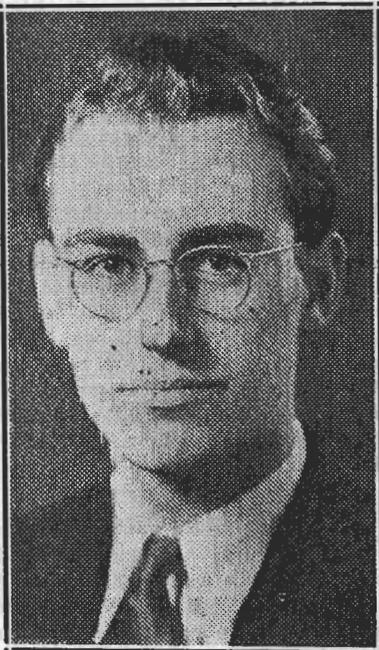
Miss Resnick began her service with Frisco Lines as stenographer in the traffic department in April, 1914. There are several breaks in her service record from August, 1918, to December, 1929, but her service, while with the railroad, was in the traffic department as stenographer, and later secretary to J. R. Koontz. She left the service in December, 1929, and returned again April 16, 1930, in the last named capacity. She was made executive clerk on August 15, 1933, and on August 16, 1933, was made assistant general eastern agent at New York City.

She enters an interesting field in
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A GOLD MEDAL WINNER

In the graduating class of 71 pupils in the Jonesboro (Ark.) High School, seven were Frisco boys and girls who finished with distinguished records. They are, Agnes Brejot, daughter of L. J. Brejot, switchman; Dorothy Lou Trussell, daughter of L. Trussell, conductor; Ellsworth Chunn, whose picture appears below, son of John C. Chunn, engineer; Glenn Townsend, son of former operator L. M. Townsend; Joe Ledbetter, son of Agent J. W. Ledbetter; Elton Dickson, stepson of Fred Cook, switchman, and Robert Englehart, son of former brakeman A. J. Englehart.

Ellsworth Chunn was chosen the most versatile student and was Salutatorian of the class. His class left a standing challenge for all future students to equal his gold medal trophies.



ELLSWORTH CHUNN

He won a spelling contest for the East School, in competition with city grammar schools, while a student in grammar school, and in Junior High School he won the Safety First essay contest sponsored by "Uncle Billy" Morrill of the Frisco. He won the Jonesboro Daily Tribune contest for the best essay on Ambition, and won the violin and composition medals in the district meet for this school.

In Senior High he won the essay contest on apples, sponsored by D. Canale Company, and a state-wide re-write news contest sponsored by the University of Arkansas. He won first

BLYTHEVILLE HAS WOMAN OPERATOR

Miss Christopher One of Few Women Operators

THE unique position held by Miss Blossom Christopher, a Frisco ticket agent and telegraph operator at Blytheville, Ark., attracted the attention of the editor of the Blytheville Courier News, and the following interesting story of her activities was printed in a recent issue of that paper:

Holding down an ordinary woman's job may be all right, but Miss Blossom Christopher, telegraph operator and ticket agent for the Frisco railroad here, finds more interest in clicking out train orders in the Morse code.

"There's something about railroad-ing that gets in your blood, and you never get over it," she said. "My job never gets tiresome or dull and I'd never be happy in any other business."

Miss Christopher, the only woman operator employed on the Frisco's St. Louis-Memphis division and one of the few employed by the company, holds down the night "trick" at the Frisco ticket office. She has been on her present job only two weeks and would not have been here at all if she hadn't been "bumped" from her job at Hayti. In the railroad business an employe with more seniority, more years of service, is allowed to "bump" or take the job of an employe with less seniority.

The daughter of a railroad conductor, Miss Christopher developed an interest in the railroad business many years ago. She decided to study telegraphy when in her 'teens with the hope that some day she could get a job, although at that time the hope was rather dim as most jobs were held by men.

Then came the war, and many railroad operators were pressed into army service. Miss Christopher and five other St. Louis girls were put to

place in violin and typewriting in the district meet, and was awarded the four-year medal in English. He edited the High Times, school publication, which won second place in the state journalism contest.

He is a member of Quill and Scroll, international honorary society for high school journalists, DeMolay, and the Jonesboro Symphony Orchestra. He enters the University of Arkansas in September to further his ambition in journalism and music.

work by Frisco officials to replace men who had gone to France. The work was hard and exacting, especially during war times when railroads were running at full capacity, but the young woman stuck to the job until she became a seasoned operator. Now she is the only one of those six girls who continues to hold an operator's job. The others either married or went into other business.

She has done all sorts of work, everything that would be demanded of a man in her position. Checking a long string of box cars by the light of a lantern in a winter-time rain is pretty tough work. Then there are seasons when she has been required to "weigh out" scores of carloads of watermelons and other perishable freight enroute to market. She has loaded baggage and heavy mail sacks, but she still likes the job.

Miss Christopher said she often amused herself during dull hours at night by "reading the wire," or translating messages coming over the line that were going to other points. Her first thrill when she began her work came when she was allowed to give train orders to the crew of a rapidly-moving freight train. To do this the operator must fasten the orders to a large hoop and stand near enough to the train to allow the engineer to pick up the hoop with his forearm from the cab of his locomotive.

"The suction from the train almost pulled me under the wheels, but I managed to stay on my feet," she said. "Even now I get something of a thrill out of getting the orders to the crew of a through train."

Her 15 years of service have all been spent in the Frisco's "River" division, between Memphis and St. Louis, where she is the only woman operator. Among the places she has worked in this section are Hayti, Kennett, Caruthersville and Wilson, Ark.

PRAISES FRISCO COURTESY

E. E. Park, of the Park Ward Company of Oklahoma City, expressed the appreciation of that company for the courteous service given to that firm recently, in a letter to J. E. Payne, traffic manager for the Frisco at Tulsa.

The letter, dated July 20, reads as follows:

"As you recall we built a section of the paving on Highway 66 near the town of White Oak, Okla., and were served by your line.

"The service you furnished and the courteous treatment we received from your employes while on this work was excellent and we feel it only proper to say to you that we feel very appreciative. In fact we have never received more efficient, prompt and courteous service."

AGENCY CHANGES

The following permanent agents were installed at the stations which follow their names: William L. Butler, Grubbs, Ark., July 6; Joe D. Boyd, Benton, Mo., July 8; George B. Homan, Biggers, Ark., July 10; Helen Y. Fellows, Crescent, Mo., July 10; Calvin Powell, Keiser, Ark., July 10; Edwin L. Mooney, Morrisville, Mo., July 11; Howard W. Bohnstedt, Delta, Mo., July 16; Louis L. Dean, Conran, Mo., July 17; Michael E. Walsh, Birmingham, Ala., July 18; Walter J. Curtis, Avoca, Ark., July 18; James J. Cummins, St. Louis-7th Street, July 18; James S. Crenshaw, Summit, Ala., July 18; Wm. D. Wilson, Butterfield, Mo., July 21; Henry J. Mullen, Mountainburg, Ark., July 26; Roy D. Newman, Bokhoma, Okla., July 28; David B. McCain, Teriton, Okla., July 29; June P. Sheets, Willmot, Kans., July 31; Cecil L. Siler, Bokchito, Okla., July 31; Frank A. Thomas, St. Paul, Ark., July 31.

The following were installed temporary agents at the stations which follow their names:

George L. Egbert, Altus, Okla., July 5; Howard R. Barks, Marston, Mo., July 6; Francis M. Means, Tyrone, Ark., July 8; Robert E. Layman, Fremont, Mo., July 8; John C. Grissom, Thomas, Okla., July 15; Charles A. Hurst, Hunter, Okla., July 17; Wade M. McClure, Arkinda, Ark., July 18; Joseph F. Lee, Miami, Okla., July 18; James M. Johnson, Fremont, Mo., July 29; Glen L. Henson, Talihina, Okla., July 31; Robert P. McCoy, Antlers, Okla., July 31.

The following agencies have been closed: Raymore, Mo.; Brownington, Mo.; Bushyhead, Okla.; Hofflins, Mo.; Jennings, Okla.; Keysville, Mo.; Leasburg, Mo.; Lindenwood, Mo.; Shrewsbury, Mo.; Bonita, Kans.; Deicke, Mo.; Garvin, Okla.

FRISCO SON HONORED

Raymond Arthur Moses, 22 years of age, son of Mr. A. P. Moses, clerk in office of superintendent of transportation, Springfield, Mo., and Mrs. Moses, graduated last month from Southwest Missouri State Teachers' College with Scholarship Honors, a B. S. Degree, a diploma in Wind Instrument, and was acclaimed first among all the men students as the most talented with a place of honor in the College Year Book.

The Frisco family is very proud of Raymond and wish him well in his musical career.

AN HONOR STUDENT

Ralph Hull, son of Troy T. Hull, car repairer in Frisco yards at Mo-



RALPH HULL

nett, graduated with high honors from Monett High School, May 19. Ralph was one of the ten students with the highest grades during the last four years in High School. He was also one of the three sons and daughters of Frisco employes to win free scholarships.

He has taken his choice, and will enter St. Louis University this fall. Ralph also won the Athletic Scholarship. He belongs to the M. club and when in school was chosen president of the sophomore class and vice-president of junior class. His parents have a right to be proud of his record.

MISS RESNICK PROMOTED

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her new position, but her outstanding qualifications, past experience and executive ability leave no doubt in the minds of her friends and associates as to her success in her new position.

WATERMELONS MOVE FRISCO

A total of 721 cars of watermelons have been shipped via Frisco Lines as of August 28. A total of 703 cars came from Missouri, with the balance from Oklahoma and other points.

They were shipped to points in Ohio, Illinois, Michigan, Wisconsin, Kentucky, Missouri and New York. Fifty additional cars are expected out of the Missouri territory.

THE COVER

The cover picture this month was taken of a crowd at the picnic sponsored by the three clubs of St. Louis, Mo., and given at the Wabash Club, Ferguson, Mo., August 6. There were so many points of interest, and the crowd so scattered, that this picture does not include the entire number attending.

The cuts appearing in Col. F. G. Jonah's story, *Progress in Transportation*, were kindly loaned the Frisco Magazine by "Civil Engineering", in which magazine this article first appeared. Col. Jonah's address was made in Chicago.

MERITORIOUS SERVICE

RIVER DIVISION

July 14—D. O. Slater, conductor, M. F. Stanfield, R. H. Ballard and B. McCammon, brakemen, volunteered their services in making repairs to broken train line on rush carload of lumber, SF 124495, moving from Wilson, Ark., to Memphis, Tenn., July 4, thus permitting car to move to destination without delay. The record of each man was credited with five merit marks.

July 15—C. B. Crocker, agent, Delta, Mo., had his personal record credited with ten merit marks for his close inspection given cars delivered to the Frisco from connections at Delta, Mo., which resulted in discovering broken flanges.

WESTERN DIVISION

July 25—Vane Powell, section foreman at Hunter, Okla., discovered brake beam dragging in train 632 at Hunter, on July 25, and reported same to the conductor and assisted in making necessary repairs. His record was credited with five merit marks.

SOUTHERN DIVISION

July 14—H. E. Weaver, brakeman, while inspecting train at Norwood, found 24 inches of flange missing from lead wheel, SF 82126, car of company chats, 22nd car from the caboose. A letter of commendation for his alertness in inspecting train was placed on his personal record.

NORTHERN DIVISION

August 5—William Leo Walsh, Kansas City, detected three cars moving into Kansas City as empties, loaded with oats. Cars were properly re-billed and Mr. Walsh's record was credited with five merit marks.

August 2—A. W. Meyers, yard clerk, detected a car of merchandise moving into Kansas City as an empty. Correction in billing was made and his record was credited with five merit marks.

SOUTHWESTERN DIVISION

August 8—L. Thurman, section foreman, Stroud, Okla., noticed brake beam down on car NATX 1309 while train 431 was passing Stroud. He notified the conductor and assisted him in removing brake beam, saving twenty minutes to the train. His record was credited with five merit marks.

FRISCO SON TO HAWAII

M. Wayland Fullington, son of Mr. and Mrs. M. T. Fullington, of Springfield, Mo., has received an appointment from the Missouri University School of Journalism as the first exchange student to the University of Hawaii at Honolulu. M. T. Fullington is General Chairman of the Order of Railroad Telegraphers.



M. WAYLAND FULLINGTON

Young Fullington was the recipient, last spring, of a John W. Jewell award for scholarship in Journalism. He is a member of Alpha Delta Sigma, national professional advertising fraternity, and Theta Kappa Nu, social fraternity.

He will sail from Los Angeles September 2, on the S. S. Malolo, arriving in Honolulu September 7. Class work at the University of Hawaii begins September 12.

Before attending the University of Missouri, he was a student at Drury College and Southwest Missouri State Teachers' College, both in Springfield. He was graduated from the School of Journalism of the University August 4, receiving a Bachelor of Journalism degree at that time.

CASUALTIES INCREASE

The statement showing the total killed and injured for the month of July, 1933, compared with July, 1932, and period to date compared with the same period last year showed an increase in total of all casualties of 23.8 per cent for the month and 11.2 per cent for the period.

W. L. McDONALD PROMOTED

W. O. Dodge Succeeds Him at Philadelphia

W. L. McDONALD, general agent at Philadelphia, Pa., was appointed to the position of general eastern agent at New York City on August 16, due to the untimely death of Henry L. Sanborn.

Mr. McDonald was born October 7, 1891, at Newark, N. J., and entered the service of Frisco Lines as chief clerk in the New York City office on October 1, 1920. He occupied the positions of soliciting freight agent, traveling freight agent, and traveling freight and passenger agent, all in the New York office. His transfer to the general agency at Philadelphia came on October 1, 1931.

W. O. Dodge, soliciting freight and passenger agent at the New York office, took Mr. McDonald's place at Philadelphia, in the capacity of general agent. Mr. Dodge began his service with Frisco Lines as soliciting freight agent in New York in June, 1921. He was later made soliciting freight and passenger agent.

MERIT CUP AWARDS

The west locomotive shop at Springfield, Mo., took the mechanical department merit cup from the west coach shop for the second quarter of 1933, with a record of .0210 casualties per 1,000 man hours worked. The locomotive shop was in second place in the first quarter. The northern division jumped from fifth place in the first quarter, to second place in the second quarter, with a record of .0377 casualties per 1,000 man hours worked. The north car shop at Springfield, Mo., remained in third place for both quarters.

In the contest for possession of the transportation department merit cup, the Kansas City Terminals took the cup from the Western division, with .0160 casualties per 1,000 man hours worked. The River division placed second, while the Western division stood in third place.

The transportation, mechanical and maintenance of way departments all showed an increase for both the month and the period. The only decreases were in the passengers and autoists. There was a 7.4 per cent decrease in the casualties for all non-employees.

These percentages include all personal injuries sustained, those reportable and those not reportable to the Interstate Commerce Commission.

PROGRESS IN TRANSPORTATION

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Icarus in Greek Mythology, who flew so close to the sun that the wax holding his wings melted and he fell to his death in the sea; and Geoffrey of Monmouth, who wrote about 1147, A. D., gives us the history of the British Kings who reigned in Britain before the coming of the Angles and Saxons. He tells of King Bladud, the father of King Lear, one of Shakespeare's great characters. Bladud was a very ingenious man and practiced magic until he tried to fly with wings and went high into the air, and fell and was dashed to pieces by falling on the Temple of Apollo in the City of Trinevantum—that is to say, in London, where St. Paul's Cathedral now stands on Ludgate Hill.

All down through the ages we read of attempts at flying, and that versatile genius Leonardo De Vinci has left for us the drawings of his flying machine, which in outline closely resembles the monoplane of today, but at best the efforts of these early experiments resulted in short gliding flights only. The internal combustion motor made the heavier than air machine possible, and within this present generation we have witnessed the entire progress of aerial navigation. We have seen the development of an important arm of military operations in the air—the transportation of mail and passengers on established commercial routes, and the attainment of marvelous speeds, with comparative safety.

One hundred years ago our transportation facilities were wholly inadequate, limited largely to movements on our rivers and lakes, which were often ice bound for months at a time. Today we have too much transportation.

What of the future? He would be a rash man indeed who would assert that we have reached the limit of development. Men are now experimenting with Rocket Propulsion, and Professor Picard believes that we will travel through the stratosphere at incredible speeds.

When Jules Verne wrote "Around the World in Eighty Days," and "Twenty Thousand Leagues Under the Sea," and a "Journey to the Moon," it was regarded as fanciful and entertaining romance, but many journeys have been made around the world in much less than eighty days, one in eight days, fifteen hours, and he foresaw the submarine. Tennyson's

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